

Listings of claims:

1. (Original) A detonator system for detonating cord, comprising:
 - a firing head having a detonator chamber sized to receive at least a portion of a detonator and having an upper sealing surface and a lower sealing surface, the upper sealing surface adapted for forming a fluid and pressure seal with a firing sub, and
 - a booster charge holder having an upper sealing surface and a bulkhead adapted for forming a fluid and pressure seal with the firing head lower sealing surface, the bulkhead and booster charge holder upper sealing surface sized to position the bulkhead adjacent an explosive component of a detonator carried in the detonator chamber when the booster charge holder upper sealing surface is engaged with the detonator chamber lower sealing surface and having a booster charge chamber below the bulkhead adapted to receive a booster charge adjacent the bulkhead.
2. (Currently amended) A detonator system according to Claim 1, wherein the detonator chamber is sized to receive at least a portion of an electrically fired detonator and the **firing head** upper sealing surface is adapted for forming a fluid and pressure seal with a wireline firing sub.
3. (Original) A detonator system according to Claim 1, further comprising a seal boot having a first end and a second end, the first end having an outer surface sized to form a fluid tight seal with an inner surface of the booster charge chamber and having inner surface sized to form a fluid tight seal with a booster charge carried in the booster charge chamber.

4. (Original) A detonator system according to Claim 3, wherein the seal boot second end has an inner surface sized to form a fluid tight seal with a detonating cord.
5. (Original) A detonator system according to Claim 4, wherein the seal boot second end has an outer surface having a diameter smaller than a diameter of the outer surface of the seal boot first end, thereby forming a shoulder on the outer surface of the seal boot between the seal boot first end and seal boot second end.
6. (Original) A detonator system according to Claim 5, further comprising:
 - a thread on an outer surface of the booster charge chamber,
 - a retainer cap having an internal thread coupled to the booster charge chamber thread
 - and having an internal shoulder engaging the shoulder on the outer surface of the seal boot and thereby retaining a portion of the seal boot in the booster charge chamber.
7. (Original) A detonator system according to Claim 6, wherein the retainer cap comprises a chamber for receiving the seal boot second end.
8. (Original) A detonator system according to Claim 1, wherein the detonator chamber is sized to receive only a portion of a detonator and to position an explosive component of a detonator below the detonator chamber lower sealing surface.
9. (Original) A detonator system according to Claim 8 wherein the booster charge holder comprises an upper chamber extending from the upper sealing surface to the bulkhead, the chamber sized to receive a portion of a detonator containing an explosive and to position the explosive portion adjacent the bulkhead.

10. (Original) A detonator system according to Claim 1, further comprising:
an electrically fired detonator carried in the detonator chamber, and
a wire line firing sub connected in sealing engagement with the detonator chamber
upper sealing surface, and electrically coupled to the electrically fired detonator.
11. (Original) A detonator system according to Claim 10, wherein the booster charge
holder upper sealing surface is connected in sealing engagement with the detonator chamber
lower sealing surface.
12. (Original) A detonator system according to Claim 11, further comprising a booster
charge carried in the booster charge chamber adjacent the bulkhead.
13. (Original) A detonator system according to Claim 12, further comprising a length of
detonating cord having one end coupled to the booster charge.
14. (Original) A detonator system according to Claim 13, further comprising a seal boot
having a first end positioned in the booster charge chamber between the booster charge and
an inner surface of the booster charge chamber, and forming a substantially fluid tight seal
the booster charge and the inner surface of the booster charge chamber.
15. (Original) A detonator system according to Claim 14, wherein the seal boot comprises
a second end extending along a portion of the detonating cord and forming a substantially
fluid tight seal with the detonating cord.

16. (Original) A detonator system according to Claim 15, wherein the seal boot first end has an outer diameter greater than the outer diameter of the seal boot second end, thereby forming a shoulder on the outer surface of the seal boot between the seal boot first end and seal boot second end.
17. (Original) A detonator system according to Claim 16, further comprising:
 - a thread on an outer surface of the booster charge chamber,
 - a retainer cap having an internal thread coupled to the booster charge chamber thread
 - and having an internal shoulder engaging the shoulder on the outer surface of the seal boot and thereby retaining a portion of the seal boot in the booster charge chamber.
18. (Original) A detonator system according to Claim 17, wherein the retainer cap comprises a chamber for receiving the seal boot second end.
19. (Withdrawn) A method for detonating detonating cord in a borehole, comprising:
 - placing a detonator in a firing head chamber,
 - sealing a first end of the firing head chamber with a firing sub,
 - sealing a second end of the firing head chamber with booster charge holder having an internal bulkhead positioned below the detonator, and
 - positioning a booster charge below the bulkhead.
20. (Withdrawn) A method according to Claim 19, wherein the detonator is an electrically fired detonator and the firing sub is a wireline firing sub.

21. (Withdrawn) A method according to Claim 19, further comprising:
providing a booster charge chamber below the bulkhead, and

positioning a fluid seal between the booster charge and the booster charge chamber.
22. (Withdrawn) A method according to Claim 21, further comprising coupling the booster charge to one end of a section of detonating cord within the booster charge chamber.
23. (Withdrawn) A method according to Claim 22, further comprising positioning a fluid seal between the detonating cord and the booster charge chamber.
24. (Withdrawn) A method according to Claim 23, further comprising firing the detonator.
25. (Withdrawn) A method according to Claim 22, further comprising mechanically supporting a borehole explosive tool from the firing head.
26. (Withdrawn) A method according to Claim 25, further comprising explosively coupling the detonating cord to the explosive tool.
27. (Withdrawn) A method according to Claim 26, further comprising positioning the firing head and explosive tool in a borehole.
28. (Withdrawn) A method according to Claim 27, further comprising firing the detonator.